

| | Type | L # | Hits | Search Text | DBs | Time Stamp | Comm ents | Error Defin ition | Errors |
|---|------|-----|-------|---|--|---------------------|-----------|-------------------|--------|
| 1 | BRS | L1 | 82 | bifidogenic | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:12 | | | 0 |
| 2 | BRS | L2 | 2 | bifidogenic same peptide | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:12 | | | 0 |
| 3 | BRS | L3 | 316 | bifidobacterium adj bifidum | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:12 | | | 0 |
| 4 | BRS | L4 | 4 | (bifidobacterium adj bifidum) same peptide | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:15 | | | 0 |
| 5 | BRS | L5 | 75602 | coli | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:16 | | | 0 |
| 6 | BRS | L6 | 0 | 4 same 5 | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:16 | | | 0 |
| 7 | BRS | L7 | 2355 | milk same peptide | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:16 | | | 0 |
| 8 | BRS | L8 | 2 | bifidogenic same (milk same peptide) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/08/09 15:17 | | | 0 |

FILE 'MEDLINE' ENTERED AT 17:20:06 ON 09 AUG 2003

FILE 'CAPLUS' ENTERED AT 17:20:06 ON 09 AUG 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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FILE 'BIOSIS' ENTERED AT 17:20:06 ON 09 AUG 2003

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FILE 'SCISEARCH' ENTERED AT 17:20:06 ON 09 AUG 2003

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FILE 'AGRICOLA' ENTERED AT 17:20:06 ON 09 AUG 2003

=> s bifidogenic
L1 317 BIFIDOGENIC

=> s l1 (p) peptide
L2 8 L1 (P) PEPTIDE

=> duplicate remove 12

DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L2

L3 3 DUPLICATE REMOVE L2 (5 DUPLICATES REMOVED)

=> d 13 1-3 ibib abs

L3 ANSWER 1 OF 3 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2002121041 MEDLINE
DOCUMENT NUMBER: 21845950 PubMed ID: 11856332
TITLE: Human milk provides peptides highly stimulating the growth
of bifidobacteria.
AUTHOR: Liepke Cornelia; Adermann Knut; Raida Manfred; Magert
Hans-Jurgen; Forssmann Wolf-Georg; Zucht Hans-Dieter
CORPORATE SOURCE: IPF PharmaCeuticals GmbH, Hannover, Germany..
c.liepke@ipf-pharmaceuticals.de
SOURCE: EUROPEAN JOURNAL OF BIOCHEMISTRY, (2002 Jan) 269 (2) 712-8.
Journal code: 0107600. ISSN: 0014-2956.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200203
ENTRY DATE: Entered STN: 20020222
Last Updated on STN: 20020320
Entered Medline: 20020319

AB The large intestine of breast-fed infants is colonized predominantly by bifidobacteria, which have a protective effect against acute diarrhea. In this study we report for the first time the identification of human milk ***peptides*** that selectively stimulate the growth of bifidobacteria. Several ***bifidogenic*** ***peptides*** were purified chromatographically from pepsin-treated human milk and identified as proteolytically generated fragments from the secretory component of the soluble polyimmunoglobulin receptor and lactoferrin; both of these proteins exhibit antimicrobial effects. Hydrolysis of the identified ***peptides*** with the gastrointestinal proteases pepsin, trypsin and chymotrypsin did not lead to the loss of ***bifidogenic*** activity, indicating their potential function in vivo. Sequential comparison revealed a similar structural motif within the identified ***peptides***. A correspondingly designed small ***peptide*** (prebiotic lactoferrin-derived ***peptide*** -I, PRELP-I) was found to stimulate the growth of bifidobacteria as effectively as the native ***peptides***. The combination of antimicrobial and bifidobacterial growth stimulatory activity in human milk proteins leads to highly specific compounds capable of regulating the microbial composition of infants' large intestine.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 1995:533685 CAPLUS

DOCUMENT NUMBER: 122:313302

TITLE: Growth promotion of *Bifidobacterium animalis* by bovine
milk proteose-peptone

AUTHOR(S): Etienne, L.; Girardet, J. M.; Linden, G
CORPORATE SOURCE: Faculte des Sciences, Universite de Nancy I
Vandoeuvre-les-Nancy, 54506, Fr.
SOURCE: Lait (1994), 74(5), 313-23
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The industrial strain *Bifidobacterium animalis* was used as assay organism to evaluate bifidobacterial growth-promoting activity of bovine milk proteose-peptone. This proved to be a better growth-promoting factor than bovine casein. The ***bifidogenic*** activity was found mainly in the proteose-peptone hydrophobic fraction contg. component 3, although the glycan moiety was a weak growth-promoter. Proteose-peptone digests by various proteolytic enzymes caused great enhancement of *B animalis* growth, particularly the Pronase digest. Size-exclusion chromatog. of digests showed that the more active ***peptides*** had a mol. mass distribution of 1000-5000 Da.

L3 ANSWER 3 OF 3 MEDLINE on STN
ACCESSION NUMBER: 89260007 MEDLINE
DOCUMENT NUMBER: 89260007 PubMed ID: 2657187
TITLE: [The bifidogenic effect of breast milk. Theories and facts].
Die bifidogene Wirkung der Muttermilch. Theorien und Fakten.
AUTHOR: Heine W
SOURCE: KINDERARZTLICHE PRAXIS, (1989 Mar) 57 (3) 109-16. Ref: 36
Journal code: 0376356. ISSN: 0023-1495.
PUB. COUNTRY: GERMANY, EAST: German Democratic Republic
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: German
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198907
ENTRY DATE: Entered STN: 19900306
Last Updated on STN: 19900306
Entered Medline: 19890705

AB Human milk has the unique capability to originate and maintain a predominance of bifidobacteria in the large bowel of infants. There is evidence, that besides other protective factors this special microbiologic effect may have beneficial influences on the resistance against enteral infections as well as on a symbiotic utilization of some milk components. This is the reason, why there have been many attempts in past to imitate the ***bifidogenic*** effect in infant formulas. The different theories formed for the classification of this principle focus on either the low buffer capacity of mother's milk, the mutarotation of lactose and the existence of antimicrobial and bifidus growth factors, respectively. The ***bifidogenic*** principle is, however, in all probability not related to only one of these factors. It can rather be considered a complex of interacting factors, of which rapid gastric emptying due to the relatively high concentration of free amino acids and ***peptides***, missing bacterial colonization of the small bowel, absence of antigenic effects of the food protein and low enterocyte regeneration may play an additional role. These aspects can be looked upon as a challenge for further research on mother's milk composition and on the metabolic effects of its constituents in future.

=> s *bifidobacterium bifidum*
L4 1957 BIFIDOBACTERIUM BIFIDUM

=> s 14 (p0 peptide
MISSING OPERATOR 'L22 (P0'
The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 14 (p) peptide
L5 42 L4 (P) PEPTIDE

=> s *e. coli*
L6 318337 E. COLI

=> s 15 (p) 16
L7 8 L5 (P) L6

=> duplicate remove 17

DUPPLICATE IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> duplicate 17

ENTER REMOVE, IDENTIFY, ONLY, OR (?) :remove

DUPPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L7

L8 2 DUPLICATE REMOVE L7 (6 DUPLICATES REMOVED)

=> d his

(FILE 'HOME' ENTERED AT 17:19:44 ON 09 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
17:20:06 ON 09 AUG 2003

L1 317 S BIFIDOGENIC
L2 8 S L1 (P) PEPTIDE
L3 3 DUPLICATE REMOVE L2 (5 DUPLICATES REMOVED)
L4 1957 S BIFIDOBACTERIUM BIFIDUM
L5 42 S L4 (P) PEPTIDE
L6 318337 S E. COLI
L7 8 S L5 (P) L6
L8 2 DUPLICATE REMOVE L7 (6 DUPLICATES REMOVED)

=> s 18 not 13

L9 2 L8 NOT L3

=> d 19 1-2 ibib abs

L9 ANSWER 1 OF 2 MEDLINE on STN

ACCESSION NUMBER: 93146928 MEDLINE

DOCUMENT NUMBER: 93146928 PubMed ID: 1490908

TITLE: Antibacterial spectrum of lactoferricin B, a potent
bactericidal peptide derived from the N-terminal region of
bovine lactoferrin.

AUTHOR: Bellamy W; Takase M; Wakabayashi H; Kawase K; Tomita M

CORPORATE SOURCE: Nutritional Science Laboratory, Morinaga Milk Industry Co.
Ltd, Zama City, Japan.

SOURCE: JOURNAL OF APPLIED BACTERIOLOGY, (1992 Dec) 73 (6) 472-9.
Journal code: 7503050. ISSN: 0021-8847.

PUB. COUNTRY: ENGLAND: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199303

ENTRY DATE: Entered STN: 19930312

Last Updated on STN: 19930312

Entered Medline: 19930304

AB A physiologically diverse range of Gram-positive and Gram-negative
bacteria was found to be susceptible to inhibition and inactivation by
lactoferricin B, a ***peptide*** produced by gastric pepsin digestion
of bovine lactoferrin. The list of susceptible organisms includes
Escherichia coli, Salmonella enteritidis, Klebsiella pneumoniae, Proteus
vulgaris, Yersinia enterocolitica, Pseudomonas aeruginosa, Campylobacter
jejuni, Staphylococcus aureus, Streptococcus mutans, Corynebacterium
diphtheriae, Listeria monocytogenes and Clostridium perfringens.
Concentrations of lactoferricin B required to cause complete inhibition of
growth varied within the range of 0.3 to 150 micrograms/ml, depending on
the strain and the culture medium used. The ***peptide*** showed
activity against ***E*** . ***coli*** 0111 over the range of pH 5.5
to 7.5 and was most effective under slightly alkaline conditions. Its
antibacterial effectiveness was reduced in the presence of Na+, K+, Mg2+
or Ca2+ ions, or in the presence of various buffer salts. Lactoferricin B
was lethal, causing a rapid loss of colony-forming capability in most of
the species tested. Pseudomonas fluorescens, Enterococcus faecalis and
Bifidobacterium ***bifidum*** strains were highly resistant to
this ***peptide*** .

L9 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 2002:8633 BIOSIS

DOCUMENT NUMBER: PREV200200008633

TITLE: Antibacterial activity associated with Lactobacillus
gasseri ATCC 9857 from the human female genitourinary

AUTHOR(S): Charteris, William P. (1); Kelly, Phillip M.; Mori, Lorenzo; Collins, J. Kevin
CORPORATE SOURCE: (1) Group R and D Department, Glanbia Ingredients Ltd.,
Ballyragget, Kilkenny: bcharteris@glanbia.ie Ireland
SOURCE: World Journal of Microbiology & Biotechnology, (August,
2001) Vol. 17, No. 6, pp. 615-625. print.
ISSN: 0959-3993.

DOCUMENT TYPE: Article
LANGUAGE: English

AB The 10-fold concentrated spent MRS culture cell-free supernatant concentrate ((CCFS)) of the human female genitourinary tract isolate *Lactobacillus gasseri* ATCC 9857 was shown to exhibit antibacterial activity towards gram-positive sporogenous and asporogenous fermentative eubacteria in liquid and on solid media under conditions that eliminated the activity of lactic acid (beta-glycerophosphate) and hydrogen peroxide (catalase). The antibacterial activity of the CCFS was characterized by automated turbidometry (BioscreenTM) and non-linear regression analysis (Gompertz model) using MRS broth cultures of the indicator strain *L. acidophilus* ATCC 11975. It exhibited a bactericidal mode of action, sensitivity to trypsin and proteinase K, partial sensitivity to pepsin and pronase E, partial heat stability at 121°C for 15 min, and retained significantly more activity following exposure to pH 3.0 and 5.0 compared with pH 7.2 and 9.0. The inhibitory spectrum included a wide range of *Lactobacillus* species, ****Bifidobacterium**** ****bifidum****, *B. infantis* and *B. catenulatum*, *Lactococcus cremoris*, *Leuconostoc cremoris*, *Pediococcus pentosaceus*, *Bacillus cereus*, *Clostridium tyrobutyricum*, *C. pasteurianum*, *C. sporogenes*, *Staphylococcus carnosus*, and *Enterococcus faecalis*. Although partial inhibition of *Escherichia coli* ATCC 25922 by CCFS was observed in liquid medium, inhibition of freshly isolated human uropathogenic ***E*** . ***coli*** strains could not be demonstrated on TSB agar plates by agar well diffusion. Following partial resolution by gel permeation FPLC on Superose-12, the fractionated CCFS was shown to comprise at least two inhibitory ***peptides*** (3.05 and 5.27 kDa) as well as aggregated inhibitory ***peptide*** material (21.65, 41.50, 81.20, and 120.90 kDa). The 3.05 kDa ***peptide***, designated Gassericin D, inhibited *L. acidophilus* strains ATCC 11975 and ACA-DC 241. The 5.27 kDa ***peptide***, designated Gassericin C, inhibited *L. gasseri* strain UCSC LF221Snb and *En. faecalis* DPC 3319. The aggregated 21.65 kDa ***peptide*** material strongly inhibited *L. acidophilus* ATCC 11975 and weakly inhibited *Listeria innocua* DPC 3306. The aggregated 41.50 kDa ***peptide*** material strongly inhibited *Ba. cereus* DPC 3316 and weakly inhibited *L. acidophilus* ACA-DC 241. The ability of *L. gasseri* ATCC 9857 to produce bacteriocin-like activity may be of importance in the biopreservation of nutraceuticals and in the management of female genitourinary and gastrointestinal tract infections involving *En. faecalis*.

=> s milk (p) peptide
L10 7427 MILK (P) PEPTIDE

=> d his

(FILE 'HOME' ENTERED AT 17:19:44 ON 09 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
17:20:06 ON 09 AUG 2003

L1 317 S BIFIDOGENIC
L2 8 S L1 (P) PEPTIDE
L3 3 DUPLICATE REMOVE L2 (5 DUPLICATES REMOVED)
L4 1957 S BIFIDOBACTERIUM BIFIDUM
L5 42 S L4 (P) PEPTIDE
L6 318337 S E. COLI
L7 8 S L5 (P) L6
L8 2 DUPLICATE REMOVE L7 (6 DUPLICATES REMOVED)
L9 2 S L8 NOT L3
L10 7427 S MILK (P) PEPTIDE

=> s L10 (p) L1
L11 8 L10 (P) L1

=> duplicate remove L11
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L11
L12 3 DUPLICATE REMOVE L11 (5 DUPLICATES REMOVED)

=> s l12 not (l3 or l9)
L13 0 L12 NOT (L3 OR L9)

=> d his

(FILE 'HOME' ENTERED AT 17:19:44 ON 09 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
17:20:06 ON 09 AUG 2003

L1 317 S BIFIDOGENIC
L2 8 S L1 (P) PEPTIDE
L3 3 DUPLICATE REMOVE L2 (5 DUPLICATES REMOVED)
L4 1957 S BIFIDOBACTERIUM BIFIDUM
L5 42 S L4 (P) PEPTIDE
L6 318337 S E. COLI
L7 8 S L5 (P) L6
L8 2 DUPLICATE REMOVE L7 (6 DUPLICATES REMOVED)
L9 2 S L8 NOT L3
L10 7427 S MILK (P) PEPTIDE
L11 8 S L10 (P) L1
L12 3 DUPLICATE REMOVE L11 (5 DUPLICATES REMOVED)
L13 0 S L12 NOT (L3 OR L9)

=> log y

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